

**Abstract of the Invention**

Metal oxide nanoparticles having at least some surface acid sites functionalized with an adhesion promoter and at least some surface acid sites functionalized with a coupling agent. The nanoparticles are useful in forming composites comprising

5 photopolymerizable matrix monomers, and are primarily suitable for dental and medical restoration. In a preferred embodiment, the metal oxide comprises zirconium, and the coupling agent is a zirconate.